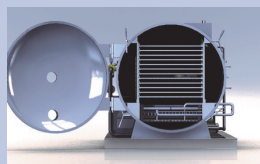




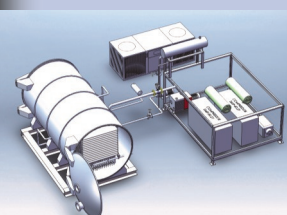
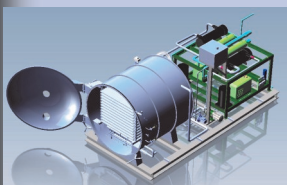
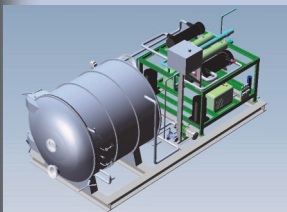
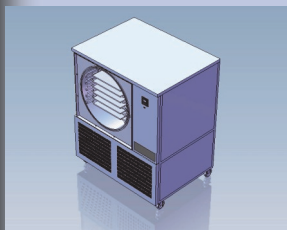
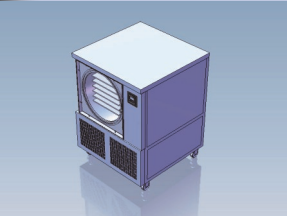
# FD200

## Freeze Dryer

**Www.siamfreezedry.com**  
**Hot line: 081-899-0952**  
**Line id: siamfreezedry**



**Epsilon Co., Ltd.**  
**Www.siamfreezedry.com e-mail: pokinb@gmail.com**



## General

The Epsilon FD-200 Freeze Dryer has been designed after careful consideration of all the factors necessary for food freeze drying techniques. The FD-200 General Purpose Freeze Dryer is capable of drying a variety of biologicals such as fruit and vegetables and diverse products such as blood/plasma, mushrooms to mussels. Epsilon Co.,Ltd. has been developing and manufacturing freeze dry and vacuum drying equipment for over 15 years.



## Chamber and door

The round shape chamber has product loading/unloading door. The door has smooth and easy lock system with correct alignment and sealing against chamber. The door made from SUS304 with clear acrylic to allow visual monitor both product and vapor condenser. The chamber made from stainless steel SUS304 with diameter 1500mm and 1800mm depth for product chamber and dia. 900 x1600 mm for ice chamber.

## Shelves

Shelves made from stainless steel flat both side complied to hygienic standard consist of 14 shelves.(17.64 sq.m)  
Product tray made from SUS304 provide 2 sets per machine

## Vapor Condenser

Condenser coil produced from stainless steel tube size 20 mm. Refrigeration of the coil is by direct expansion valve via thermostatic valve.

## Defrosting

Defrosting ice from the vapor condenser after a product cycle is hot water to make a rapid process for high volume.

## Refrigeration

The FD200 Freeze dryer has 1 water cooled condensing unit with non-cfc refrigerant. Bitzer 2 stage compressor is standard.

## Vacuum System

The vacuum pump system has capacity approximately 300 cubic meter per hour. Vacuum pump type are Edwards or Leybold 2 stages rotary and one booster with ultimate pressure  $4 \times 10^{-3}$  mbar. Vacuum pump connected to the chamber isolated by electric vacuum solenoid valve. The pump features an automatic isolating valve to hold the chamber pressure in the event of power failure or vacuum value not reach as set point.

## Heating System

The heating fluid is silicone oil and is circulated by in magnetic drive pump, allow heated or cooled fluid to be circulated through the plates. A cooling heat exchanger is provided in the circuit.

## Instrumentation

All instruments used complied national safety standard.

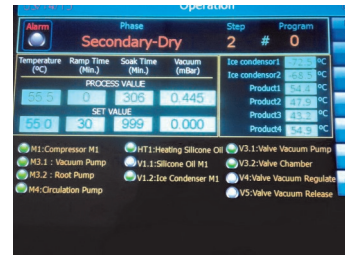
Vacuum pump: Edwards or Leybold, vacuum gauge: Edwards, Compressor: Bitzer, PLC: ABB/Omron, Touch Screen: ABB/Proface





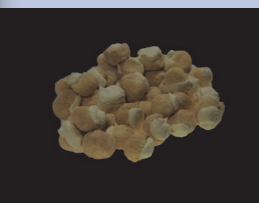
## Product testing

A wide range of product to be processing from freeze dryer such as dietary supplementary, fruit, foods, vegetable, medicine.



## Smart Program

User friendly and easy to access step by step for user guide.  
Easy to storage data by flash drive through PLC



## Capacities and cycle time

FD200 freeze dryer has a quality acceptance by factory testing are 200 kg per batch and capable to continuous operated on demand per batch as the standard of freeze dry process.

The capable of vapor condenser capacity of ice within 24 hours equates 200 kg. of ice.

## Overall Specifications

|                             |                                                                                                |
|-----------------------------|------------------------------------------------------------------------------------------------|
| Overall Dimensions:         | 2000mm wide x 4000 mm depth x 2500 mm height (Chamber), 2500 x 1800 x 1800mm (condensing unit) |
| Number of shelves:          | 14                                                                                             |
| Shelves capacity area:      | 17.64 sq.m                                                                                     |
| Refrigeration:              | 20 hp Bitzer 2 stages Compressor                                                               |
| Refrigerant:                | R404a                                                                                          |
| Shelves temperature:        | -40C to +70C                                                                                   |
| Heating and cooling medium: | Silicone oil                                                                                   |
| Ice Condenser:              | SUS304 20mm pipe coil                                                                          |
| Ice condenser capacity:     | 200kg per 24hours                                                                              |
| Ice condenser temperature:  | -65C                                                                                           |
| Vacuum pump:                | Edwards 2 stages rotary vane pump w/booster or equivalent                                      |
| Working Pressure            | 0.01mbar to atmosphere                                                                         |
| Power requirement:          | 40kW 120 amp, 3 phase 380Volt                                                                  |
| Weight :                    | Approx. 7000kg.                                                                                |

Specifications subject to change without prior notice



## Epsilon Company

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